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ABSTRACT

Efforts toward predicting reading failure have been principally directed at assessing the child's strengths and weaknesses with reference to a limited number of reading correlates under conditions dissimilar to those in which he will be later expected to perform. Because this type of readiness model does not take into consideration a number of important variables, an approach is suggested which will provide a closer approximation between the predictor and criterion. This would entail (1) evaluation of the kindergarten child's reading-related skills and behaviors, as well as interfering behaviors; (2) evaluation of each first-grade classroom program to determine the skills and behaviors the child must have in order to cope with the reading task; and (3) an analysis of the discrepancy between the child's skills and behaviors and those required for successful performance. Rating scale instruments are being developed for evaluation of the kindergarten child by the teacher. The first-grade teacher and classroom situation will also be evaluated by an observer who will use a separate but parallel rating scale. As less restrictive models are used to predict reading failure, it is likely that more comprehensive remedial and preventive measures will evolve. A bibliography is included. (DH)

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PREDICTING READING FAILURE: BEYOND THE READINESS MODEL

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There has been a considerable amount of research effort directed toward the problem of predicting school failure, especially reading failure (Austin and Morrison 1963; Barrett, 1965; Chall, Roswell, et al, 1965; Cohen, 1963; de Hirsch, et al, 1966; Haring and Ridgway, 1967; Harrington and Durrell, 1955; Henig, 1949; Kermoian, 1962; Koppitz, 1964; Martin, 1955; Monroe, 1935; Weiner and Feldman, 1963). While some of these studies have yielded significant correlations between predictors and criterion variables, the relationships have been weak, particularly when subjected to cross-validation procedures. A principal thesis of this article is that this relative lack of success, in large part, is a consequence of the fact that these efforts have been based upon what is essentially a "reading readiness" model, i.e., a model which, traditionally, has emphasized the assessment of a youngster's deficits with reference to a delimited set of reading correlates such as perceptual-motor and linguistic skills. At the very least, it is evident that most of these investigations have been restricted to procedures which do not assess the impact of many key variables which interact in shaping school success and failure.

The work of de Hirsch and her colleagues (1966), while of considerable interest and importance, nevertheless provides a recent example of such a restricted approach. The almost exclusive focus of these investigators on "readiness" variables is rather surprising in view of the explicit awareness of the dynamic nature of the process by which reading skill is acquired. As the investigators themselves point out:

> We recognize that a variety of social, environmental, and psychological factors are significant in the acquisition of reading skills, and we concur with Abraham Fabian (1951), who maintains that learning to read requires the developmental timing and integration of both neurophysiological and psychological aspects of readiness. Nevertheless, we limited ourselves to the preschool child's perceptumotor and linguistic functioning because in this area we had found considerable deviation from the norm among children who subsequently failed in reading and spelling. We therefore put together a battery of tests which we hoped would reflect the children's perceptumotor and linguistic status at kindergarten level." (de Hirsch, et al., 1966.)

Thus, despite recognition of the importance of socio-emotional and environmental factors, essentially, the decision was made to ignore the impact of such variables. This decision is reflected not only by the limiting of assessment to perceptual-motor and linguistic functioning but also by the choice of a "battery of tests" which are administered to each youngster individually. Such assessment procedures obviously entail markedly different performance conditions than are to be found in the classroom, e.g., the adult tester provides undivided attention in contrast to a classroom teacher whose attention is almost always divided when she is teaching, and, more generally, the influence of such relevant factors as peer-group pressures, distractions, and other classroom situational variables is removed. In using such procedures, one is placed in the poistion of attempting to make predictions about later classroom performance, based on admittedly limited information, derived under conditions which are extremely dissimilar from the situation in which such performance is expected to occur. (This dissimilarity alone could account for many of the "false negatives" in the de Hirsch study and certainly would result in a great number of undetected potential failures in a large scale predictive program.)

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A discussion of all the theoretical and practical limitations of such restricted approaches to the problem of predicting school failure is beyond the scope of this article. (For further critical discussion see de Hirsch, et al., 1966; Rozeboom, 1966; Zieky and Ellis, 1968.) Our primary purpose here is to go beyond the readiness model and suggest a viable alternative, i.e., an approach which provides a closer approximation between predictor and criterion.

As implied above, a youngster's success or failure in school is most fruitfully seen as a function of the interaction between his strengths, weaknesses, and limitations and the specific classroom situational factors he encounters, including individual differences among teachers and differing approaches to instruction. This interactional model leads to the inference that success in the first-grade depends not only on the youngster having the necessary skills and behaviors for learning what is being taught but also is dependent on the characteristics of the classroom situation to which he is assigned. Thus, it is hypothesized that the greater the congruity between a youngster's skills and behaviors (as manifested under representative classroom conditions) and those required of him in a specific first-grade classroom, the greater the likelihood of success; conversely, the greater the discrepancy between the child's skills and behaviors and those required in his classroom, the greater the likelihood of failure. (It should be noted for purposes of this discussion "failure" is viewed as reading performance which results in a child receiving a D or F Reading grade.)

A major implication of this hypothesis is that one effective strategy for predicting reading failure is to assess the degree to which the kindergarten youngster can successfully cope under representative classroom conditions with tasks which are as similar as possible to those which he will encounter in the first-grade reading program. Such an assessment can be accomplished by (1) evaluating, in situ, deficits in or absence of reading-relevant skills and behaviors, as well as evaluating the presence of interfering behaviors in each kindergarten child, (2) evaluating each first-grade classroom program to determine the pattern and degree of skills and behaviors which the youngster assigned to that classroom and teacher will find critical in coping with the reading-relevant tasks, and (3) analyzing the discrepancy between a youngster's skills and behaviors and what is being required for success in that classroom.

The following brief description of how these steps will be implemented in an experimental program should help to clarify this approach to predicting reading failure.

Evaluation of Kindergarten Children

In developing a new child assessment procedure specifically designed to aid in predicting which children will fail in the first-grade reading program, the emphasis has been on those behaviors and skills which first-grade teachers generally require and those behaviors which they will not tolerate during activities related to reading instruction. The specific instrument currently being developed is a rating scale consisting of items which reflect a recent analysis of such requirements. This analysis is based on observation of numberous first-grade and kindergarten classrooms, a survey of available readiness inventories and curriculum manuals, a review of various writers (Bruner, et al., 1966; Fernald, 1943; Havighurst, 1953; Hebb, 1949; Hewett, 1966; Hunt, 1961; Piaget, 1950), and relevant personal experiences in the field of learning disabilities over the past ten years. To date, this analysis has yielded the following list of abilities.

(1) With regard to physical and motor development and general health, the important areas and functioning levels are viewed as:

(a) adequate sensory capacity, i.e., Johnson and Myklebust (1967) indicate that hearing loss greater than thirty to thirty-five decibels (computed as an average for the speech range of the better ear) might result in a detriment to learning. Lawson (1967) indicates a visual impairment of 20/40 or greater (when glasses are worn) should be considered consequential for learning. In addition to visual acuity, color blindness may contribute to learning difficulties, especially in the early grades. (Impairment of other senses has not been demonstrated to be a serious problem in learning academic skills.)

(b) adequate eye-hand coordination, i.e., the youngster performs such skills as using a pencil appropriately and with enough control to keep close to the outline of large figures;

(c) general health which is good enough so that the youngster maintains regular attendance at school.

(2) With regard to language skills, the important abilities are viewed as:

(a) expressive, i.e., the youngster speaks clearly and plainly enough to be understood in class and manifests a working vocabulary;

(b) receptive, i.e., the youngster understand what is said in class;

(c) use, i.e., using at least simple sentences, the youngster expresses ideas, thoughts, feelings; the youngster also has an awareness of the relationship between spoken and written language.

(3) With regard to perceptual abilities, the important abilities are viewed as:

(a) visual discrimination, i.e., the youngster discriminates differences and similarities in letters, words, numbers, and colors, and sees the relationship of a part to the whole;

(b) auditory discrimination, i.e., the youngster discriminates differences and similarities in sounds of letters.

(4) With regard to other general school behaviors and skills, items are being developed to allow for evaluation of the degree to which a youngster manifests interest in pursuing reading-relevant activities and the degree to which he manifests the ability:

(a) to follow simple directions;
(b) to maintain attention for sufficient periods of time in doing seat work to accomplish a simple classroom task;
(c) to observe and to remember;
(d) to answer questions about a simple story;
(e) to tell a story from a picture (associate symbols with pictures, objects and facts);
(f) to direct attention toward print or pictures displayed to the class by the teacher;
(g) to solve simple problems;
(h) to tolerate failure sufficiently to persist on a task;
(i) to make transitions from one activity to another;
(j) to carry on with a task over several days;
(k) to accept adult direction without objection or resentment;
(l) to do work without constant supervision or reminders;
(m) to respond to normal classroom routines;
(n) to suppress tendencies to interrupt others.

In addition to these skills and behaviors, it is obvious that if a child manifests certain other negative behaviors, he may well have serious difficulties in school. These include problems in terms of teacher and/or peer relationships, being able to care for himself, control himself, and so forth. Therefore, an assessment of such factors is also viewed as necessary in screening for potential reading failure.

In general, then, the child evaluation instrument being developed covers all the areas listed above and is designed for use in the kindergarten classroom by the kindergarten teacher. Three examples of scale items are presented below:

"When the task requires it, how often do you find he can and does speak clearly enough so that you can understand him?"

"When the task requires it, how often can and does ~~how often can and does~~ he discriminate the differences and similarities in letters and words when he is looking at them?"

"When the task requires it, how often can and does he answer questions about a simple story?"

Such items are rated on a five point scale with 1 being the lowest point and indicating that in situations requiring the specific behavior or skill the youngster's response never or hardly ever is adequate or appropriate. ("Never or hardly ever" are defined as 0-10 percent of the time and the frame of reference established for "adequate or appropriate" responding is performance which the teacher would grade C or better.) The highest point on the scale, 5 indicates that in situations requiring the specific behavior or skill the child's response is adequate or appropriate always or almost always (90-100 percent of the time).

The proposed procedures for using this instrument involve training the kindergarten teacher to observe her students, with specific reference to the rating scale items over the period covering the last 2-3 months of the youngster's kindergarten year. At the end of the school year, she rates the child on the items, thereby evaluating the pattern and degree of skills and positive and negative behaviors which the youngster has manifested. (If the kindergarten teaching program does not include activities which require some of the skills and behaviors which are included on the rating scale, then a series of "lessons" will be initiated by the teacher so that she will be able to rate all items. In addition, it is assumed that general medical screening, e.g., of visual and auditory acuity, will be accomplished by competent physicians, especially in those instances when a youngster is evaluated as being a potential failure.)

It may be noted, in passing, that these procedures have several major advantages over procedures that have been typically used in the prediction of reading failure. For example, since the assessment is made over an extended period of time, it involves a broader sample of behavior than can be obtained during a single test session; in addition, the use of the classroom teacher avoids the necessity of employing specially trained testers, a procedure which is not only more economical but which can also facilitate the use of the findings as an educational aid.

Evaluation of First-Grade Programs

For evaluating the critical demands of a specific first-grade classroom situation and teacher, a separate but parallel rating scale is currently being developed. For example, the following three sample items parallel the kindergarten items presented above.

"How often does the teacher require clarity of speech in order for a student to be able to perform adequately and appropriately on a reading-relevant task?"

"How often does the teacher require the ability to discriminate visually the differences and similarities in letters and words in order for a student to be able to perform adequately and appropriately on a reading-relevant task?"

"How often does the teacher require at least the ability to answer questions about a simple story in order for a student to be able to perform adequately and appropriately on a reading-relevant task?"

Again such scale items are rated on a five-point scale with 1 being the lowest point. In this case, 1 indicates that the teacher never or hardly ever (0-10 percent of the time) appears to require the particular behavior or skill in order for a student to be considered to have performed adequately and appropriately. (Performance which the teacher would not consider adequate or appropriate is defined as behavior which she assigns a grade of D or F.) With minimum training, the school counselor or some other member of a particular school's staff can use such a first-grade evaluation scale to rate the level of skill and behavioral performance required of a pupil for success during the reading period. In making such ratings, a rater observes a first-grade teacher during the reading instruction period, particularly in the pattern--setting initial weeks of the program. Primary focus is on the teacher's interactions with those students who are doing poorly in reading-relevant activities. The final ratings on the scale are made at the conclusion of the entire period of observation which will probably require a number of weeks. Every first-grade teacher in a given school is to be rated in this manner, thereby empirically determining not only which student skills and behaviors are required but which ones are critical, i.e., the degree to which the the teacher requires certain levels of performance and the degree to which she tolerates and/or compensates for particular deviations.

Discrepancy Analysis

The above procedures, then, can yield (1) an indication of which skills and behaviors are critical for succeeding in the first-grade program in a particular classroom, school, and district, and (2) the level of performance of a particular kindergarten child with regard to these critical skills and behaviors. These data permit an analysis of the discrepancy between a specific youngster's skills and behaviors and the requirements for successful first-grade performance. For research purposes, all three levels of discrepancy analyses can be carried out, i.e., a separate discrepancy score may be derived from the differences between the ratings given a youngster on each item and the normative rating for the district, the normative rating for a particular school, and the idiosyncratic rating given to the first-grade teacher to whom the youngster is assigned. A comparison of these sources provides an empirical means for determining the significance of variations in requirements in different first-grade classes as compared to the normative skills demanded of each child during reading instruction.*

* The need to assess idiosyncratic as well as normative aspects of teachers' behavioral and skill demands or lack thereof in the reading area was demonstrated dramatically in the classroom of one first-grade teacher observed recently. Her only criterion for deciding whether a student should be placed in the lowest reading group, (with the probably psychoeducational consequences of such a placement) was the child's lack of ability to open his book and rapidly find the place she had indicated.

The procedures that have been proposed and described here are in their initial stages of development. Nevertheless, it is hoped that the description of these efforts convey the differences between a predictive approach which attempts only to assess a youngster's strengths, weaknesses, and/or limitations under standardized conditions and one which attempts to assess such factors and their relative importance with particular reference to the conditions under which they are to be manifested. It is these differences which are viewed as critical in effectively predicting which children are most likely to fail in the area of reading.

In addition to improving predictive accuracy, two other benefits may accrue from such an approach. First, since the kindergarten evaluation procedures assess aspects of socio-emotional functioning, such a screening program for potential reading failures also provides the opportunity (with several additional rating items) for the rapid, first level screening of disturbed pre-school and school-age children (see Bowers, 1960, 1963; Kohn and Silvermann, 1966a, 1966b; Lambert, 1963; Rubin, Simson, and Betwee, 1966). Further, the first-grade evaluations allow for an assessment of the actual demands of the reading programs in these classrooms, as well as the determination of how closely these demands resemble the first-grade curriculum established by the school district. Thus, as we expand our efforts, with regard to assessing the problems of the child and the process by which we teach him, we place ourselves in a better position to improve the weaknesses in the system, as well as in the child. Stated more generally, as less restrictive models are employed in efforts to predict reading failure, it is likely that more comprehensive remedial and preventive measures will evolve.

In conclusion, then, the views presented above may be summarized as suggesting that the readiness model as applied to the prediction of reading failure has proven to be much too restrictive, that there is a viable alternative to this model, and that the implications derived from research based on such an alternative model may lead to more comprehensive efforts to remedy and prevent reading failure. At the very least, it seems reasonable to suggest that exploration based on a less restrictive model should aid in further identifying the key variables which are involved in this critical problem area.

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